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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,571	07/11/2001	Oliver Klein	4009-2	4817

23117 7590 12/06/2004

NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER	
BARNIE, REXFORD N	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/901,571	KLEIN ET AL.	
	Examiner	Art Unit	
	REXFORD N BARNIE	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

RBarnie
REXFORD BARNIE
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4-5*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/57819 (cited by applicant) in view of Atarius et al. (US pat# 6,373,882) or Ostberg et al. (US pat# 6,542,562) or Hasegawa (US 2001/0041536) or Flaig et al. (US Pat# 2002/0159507).

Regarding claim 1, WO '819 teaches a search window delay tracking in code division multiple access (CDA) communication systems comprising;

estimating a channel impulse response (CIR) for the received signal containing plural paths, each path having a corresponding path delay;

determining a delay error between the mean CIR delay and a desired delay position in (see claims of WO '819 and figs. 1-13). Furthermore, an adjust signal can be applied to reduce error in (see page 4 lines 15-16). Furthermore, the movement of the station can be a factor in the adjustment of errors in (see page 3 lines 4-6). According to the applicant, Doppler effect is in part determined by the movement of a mobile station, however for the sake of argument, the examiner has applied either one of the following secondary references to teach taking into account Doppler effect when adjusting a signal.

Atarius et al. teaches a motion estimation for a CDMA mobile station in (see figs. 3-5 and cols.3-5 for example col.5) wherein doppler effect can be applied or taken into account for signal processing and adjusting a signal in part based on such a factor and also, can be used to reduce power consumption and reduce interference.

Ostberg et al. teaches an approximated based channel estimator in a mobile communication system in (see figs. And disclosure) such that channel estimation can be performed with lower computational intensity while reducing interference taking into a doppler factor.

Hasegawa teaches a CDMA telephone in (see section [0033-0041] of disclosure) that Doppler effect can be used or taken into account for adjusting a signal.

Flaig et al. teaches a method and apparatus for regenerative based interference cancellation within a communication system in (see [0051] of disclosure) wherein a Doppler effect can be used and applied to a signal for adjustment purposes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either one of the secondary references into that of WO '819 thus making it possible to reduce noise and enhance signal intelligibility by taken into account Doppler effect or in general, the shift in signal frequency caused by the relative movement of a transmitter/receiver as a result of multi-paths and so forth.

Regarding claims 2-13, see the explanation as set forth regarding claim in addition to disclosure of WO '819. Furthermore, the combination teaches the possibility of applying doppler effect adjust to enhance signal intelligibility.

Regarding claim 14, WO' 819 teaches in (see disclosure) a radio receiver receiving from each of plural cells, a signal transmitted from a transmitter containing plural paths, a method comprising of estimating a channel impulse response (CIR) for the received signal using a channel estimator; defining an associated search window for each channel estimator, where each search window defines a delay profile containing plural paths, selecting optimal ones of the plural paths, calculating a delay error, mean delay and so forth

Furthermore, an adjust signal can be applied to reduce error in (see page 4 lines 15-16). Furthermore, the movement of the station can be a factor in the adjustment of errors in (see page 3 lines 54-6).

According to the applicant, Doppler effect is in part determined by the movement of a mobile station, however for the sake of argument, the examiner has applied either

one of the following secondary references to teach taking into account Doppler effect when adjusting a signal.

Atarius et al. teaches a motion estimation for a CDMA mobile station in (see figs. 3-5 and cols.3-5 for example col.5) wherein doppler effect can be applied or taken into account for signal processing and adjusting a signal in part based on such a factor and also, can be used to reduce power consumption and reduce interference.

Ostberg et al. teaches an approximated based channel estimator in a mobile communication system in (see figs. And disclosure) such that channel estimation can be performed with lower computational intensity while reducing interference taking into a doppler factor.

Hasegawa teaches a CDMA telephone in (see section [0033-0041] of disclosure) that Doppler effect can be used or taken into account for adjusting a signal.

Flaig et al. teaches a method and apparatus for regenerative based interference cancellation within a communication system in (see [0051] of disclosure) wherein a Doppler effect can be used and applied to a signal for adjustment purposes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either one of the secondary references into that of WO '819 thus making it possible to reduce noise and enhance signal intelligibility by taken into account Doppler effect or in general, the shift in signal frequency caused by the relative movement of a transmitter/receiver as a result of multi-paths and so forth.

Regarding claims 15-24, see the explanation as set forth regarding claim in addition to disclosure of WO '819. Furthermore, the combination teaches the possibility of applying doppler effect adjust to enhance signal intelligibility.

Regarding claim 25, WO' 819 teaches a search window tracking unit for use in a radio receiver receiving a transmitted signal having plural paths comprising a processor to receive delay and magnitude values associated with different paths and determine position of the channel impulse response of the different paths and a controller configured to determine position of a search window used to locate the channel impulse response in (see figs., claims and disclosure).

Furthermore, an adjust signal can be applied to reduce error in (see page 4 lines 15-16). Also, the movement of the station can be a factor in the adjustment of errors in (see page 3 lines 4-6). According to the applicant, Doppler effect is in part determined by the movement of a mobile station, however for the sake of argument, the examiner has applied either one of the following secondary references to teach taking into account Doppler effect when adjusting a signal.

Atarius et al. teaches a motion estimation for a CDMA mobile station in (see figs. 3-5 and cols.3-5 for example col.5) wherein doppler effect can be applied or taken into account for signal processing and adjusting a signal in part based on such a factor and also, can be used to reduce power consumption and reduce interference.

Ostberg et al. teaches an approximated based channel estimator in a mobile communication system in (see figs. And disclosure) such that channel estimation can be

performed with lower computational intensity while reducing interference taking into a doppler factor.

Hasegawa teaches a CDMA telephone in (see section [0033-0041] of disclosure) that Doppler effect can be used or taken into account for adjusting a signal.

Flaig et al. teaches a method and apparatus for regenerative based interference cancellation within a communication system in (see [0051] of disclosure) wherein a Doppler effect can be used and applied to a signal for adjustment purposes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either one of the secondary references into that of WO '819 thus making it possible to reduce noise and enhance signal intelligibility by taken into account Doppler effect or in general, the shift in signal frequency caused by the relative movement of a transmitter/receiver as a result of multi-paths and so forth.

Regarding claims 26-38, see the explanation as set forth regarding claim in addition to disclosure of WO '819. Furthermore, the combination teaches the possibility of applying doppler effect adjust to enhance signal intelligibility.

Regarding claim 39, WO '819 teaches a radio base station in (see figs) comprising the claimed limitations in (see claim 34). Furthermore, an adjust signal can be applied to reduce error in (see page 4 lines 15-16). Also, the movement of the station can be a factor in the adjustment of errors in (see page 3 lines 4-6). According to the applicant, Doppler effect is in part determined by the movement of a mobile station, however for the sake of argument, the examiner has applied either one of the

following secondary references to teach taking into account Doppler effect when adjusting a signal.

Atarius et al. teaches a motion estimation for a CDMA mobile station in (see figs. 3-5 and cols.3-5 for example col.5) wherein doppler effect can be applied or taken into account for signal processing and adjusting a signal in part based on such a factor and also, can be used to reduce power consumption and reduce interference.

Ostberg et al. teaches an approximated based channel estimator in a mobile communication system in (see figs. And disclosure) such that channel estimation can be performed with lower computational intensity while reducing interference taking into a doppler factor.

Hasegawa teaches a CDMA telephone in (see section [0033-0041] of disclosure) that Doppler effect can be used or taken into account for adjusting a signal.

Flaig et al. teaches a method and apparatus for regenerative based interference cancellation within a communication system in (see [0051] of disclosure) wherein a Doppler effect can be used and applied to a signal for adjustment purposes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of either one of the secondary references into that of WO '819 thus making it possible to reduce noise and enhance signal intelligibility by taken into account Doppler effect or in general, the shift in signal frequency caused by the relative movement of a transmitter/receiver as a result of multi-paths and so forth.

Regarding claims 40-51, see the explanation as set forth regarding claim in addition to disclosure of WO '819. Furthermore, the combination teaches the possibility of applying doppler effect adjust to enhance signal intelligibility.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **REXFORD N BARNIE** whose telephone number is (703)306-2744. The examiner can normally be reached on M-F 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRIMARY EXAMINER
REXFORD BARNIE
12/02/04

RBarnie
REXFORD BARNIE
PRIMARY EXAMINER